Data Sheet (Cat.No.TMPY-02859)

TargetMol

TFPI2 Protein, Mouse, Recombinant (hFc)

General Information

Synonyms:	PP5/TFPI-2;AV000670;tissue factor pathway inhibitor 2
Protein Construction:	A DNA sequence encoding the mouse TFPI2 (O35536) (Met1-Lys211) was expressed, fused with the Fc region of human IgG1 at the C-terminus. Predicted N terminal: Leu 23
Species:	Mouse
Expression Host:	HEK293 Cells
Accession:	O35536
Molecular Weight:	48.4 kDa (predicted); 53 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 83 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Tissue factor pathway inhibitor-2 (TFPI2), a member of the Kunitz-type serine proteinase inhibitor family, is a structural homologue of tissue factor pathway inhibitor (TFPI). It is a 32 kDa matrix-associated glycoprotein consisting of a short amino-terminal region, three tandem Kunitz-type domains and a positively charged carboxy-terminal tail. TFPI2 inhibits plasmin-dependent activation of several metalloproteinases. TFPI2 is highly abundant in the full-term placenta and widely expressed in various adult human tissues, such as the liver, skeletal muscle,

heart, kidney, and pancreas. The expression of TFPI2 in tumors is inversely related to an increasing degree of malignancy, which may suggest a role for TFPI2 in the maintenance of tumor stability and inhibition of the growth of neoplasms. TFPI2 inhibits the tissue factor/factor VIIa (TF/VIIa) complex and a wide variety of serine proteinases including plasmin, plasma kallikrein, factor XIa, trypsin, and chymotrypsin. TFPI2 is involved in regulating pericellular proteases implicated in a variety of physiologic and pathologic processes including cancer cell invasion, vascular inflammation, and atherosclerosis. TFPI2 has also been shown to induce apoptosis and inhibit angiogenesis, which may contribute significantly to tumor growth inhibition.

Reference

Peerschke EI,et al.(2004) Tissue factor pathway inhibitor-2 (TFPI-2) recognizes the complement and kininogen binding protein gC1qR/p33 (gC1qR): implications for vascular inflammation. Thromb Haemost. 92(4): 811-9.
Rollin J,et al.(2005) Expression and methylation status of tissue factor pathway inhibitor-2 gene in non-small-cell lung cancer. Br J Cancer. 92(4): 775-83.
Chand HS,et al.(2005) Structure, function and biology of tissue factor pathway inhibitor-2. Thromb Haemost. 94(6): 1122-30.
Sierko E,et al.(2007) The role of tissue factor pathway inhibitor-2 in cancer biology. Semin Thromb Hemost. 33(7): 653-9.